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The Impact of the Modernization of the Indonesian Stock Market on Employment

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THE IMPACT OF THE MODERNIZATION OF THE INDONESIAN STOCK EXCHANGE ON EMPLOYMENT

I. FINDINGS AND OPERATIONAL IMPLICATIONS

This section summarizes the main conclusions derived from the empirical results presented in this report.

1. Stock Exchanges, Policies, and Foreign Capital Inflows

The amount of in capital raised through equity shares in the Jakarta Stock Exchange (JSX) since 1991 indicates that the international capital market reacted favorably to the capital market reforms enacted in the early 1990s in Indonesia. This is consistent with *a priori* expectations that capital flows respond to improved institutional and policy settings and higher expected risk-adjusted returns.

Moreover, the Indonesian experience is also consistent with the rising flows of international capital for many emerging markets in Asia that put in place an adequate policy framework. This would have implications for other developing regions as well. In addition, the empirical evidence reviewed presented in this report is consistent with findings of recent research that conclude that, in many developing countries, corporations expand their capital base by seeking outside risk capital.[1]

The fact that stocks -- not bonds -- are the main instruments exchanged suggests that, after a period of significant institutional reforms geared to strengthening the public's confidence in the stock exchange, Indonesia has reached the point where the stock market provides a valuation of shares largely accepted as objective. An implication is that, shares are more marketable, and share holders enjoy greater liquidity.

2. Stock Exchanges, Firm Size, and Economic Distribution

The evidence reviewed showed that both big and significantly smaller firms actively participated in the stock exchange. While, by definition, firms whose share are traded in the stock exchange are formal-sector firms, the results suggest that stock exchanges do not benefit only the larger and most powerful firms, but can be an important source of capital for smaller enterprises listed on the stock exchange.

Such a conclusion is supported by recent findings that in many

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1 See Singh (1995).

developing countries stock exchanges are an important source of capital financing for enterprises.[2] Moreover, as smaller firms can derive significant benefits from their access to stock exchanges, the growth of such exchanges does not necessarily translate into a greater concentration of capital and of economic power.[3]

3. Stock Exchanges, Employment, and Growth

The evidence reviewed in this study strongly suggests that the Jakarta Stock Exchange (JSX) has played a key role in the generation of significant modern sector employment. Such generation of formal-sector employment is indicative that capital raised through the stock exchange has been a strong contributor to growth.

Direct employment created during the four-year period, 1991-94, thanks to foreign new capital raised on the stock exchange, ranges from 0.1 to 0.3 million new jobs. This amounted to an estimated three to five percent of total new jobs created in the formal sector during that period. As explained in the text, this estimate does not take into account the number of "indirect jobs" created in firms supplying inputs to those that raised new capital on the JSX or who supplied consumer goods to the newly-hired workers in those JSX firms.

4. Employment, Size-of-Firm, and Policies

While, in absolute terms, the smaller firms generated a substantial volume of employment, relative to their weight in the sample, the smaller firms listed on the stock exchange had low employment generation and new capital shares.

Nonetheless, the data strongly suggest that:

- **Size of firm listed on the stock exchange may not be a dominant variable in employment generation;**
- **Firms of various sizes listed on the stock exchange can generate significant amounts of employment; and,**
- **Employment can be influenced by both the growth in firms as well as by**

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2 Singh (1995), and Singh and Hamid (1992).

3 The argument for a perverse effect on economic concentration stands on the proposition that the owners of bigger and better established firms are likely to derive greater benefits from the stock exchanges than the owners of smaller firms.

the entry of new, perhaps smaller firms listed on the stock exchange.

A methodological byproduct of this analysis is that different measures of size -- sales as opposed to employment, for example -- can result in significantly different size-classification of firms registered on the stock exchange and different results between size and other variables.

Finally, the data are consistent with the proposition that, rather than targeting specific firms registered on the stock market, industries, or industry group, employment policy should aim at fostering a policy and regulatory environment that encourages employment generation in a competitive setting via both the growth of existing firms and the creation or entry of new firms. **While this conclusion might seem trivial, it has been frequently ignored by donor institutions and governments in their attempts to identify "strategic" sectors for employment generation.**

5. Stock Exchanges and Wages

Workers who were hired as a result of capital-raising in the JSX experienced a significant rise in income.

6. Stock Exchanges and Type of Workers Who Benefit From Increased Employment Opportunities

The workers who have benefited represent a broad spectrum of the Indonesian labor force -- workers of both sexes, with education levels ranging from vocational training to college graduates, and diverse family backgrounds. Nonetheless, the results suggest that firms raising capital in the stock exchange demand more skilled than unskilled workers. Thus, the growth of firms registered on the stock exchange will increase the demand for education.

7. Implications for Donor Agencies

Recent professional literature has brought to light:[4]

- **The decreasing trend in official development assistance;**
- **The rise in the demand for capital as countries reform their policies and expand their potential for growth;**

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4 See: International Monetary Fund (March 1995, November 1995); Bekaert, Garcia and Harvey (1995); and, Feldman and Kumar (1995).

- **The massive need for new infrastructure in regions such as Asia;**

- **The declining role of banks as the leading providers of finance compared to the role they played in the seventies and eighties.**

Such trends, and the present findings, underline the importance for donor agencies of helping strengthen the enabling environment for capital markets development as an important means to generate productive employment and attack poverty.

The next sections:

- **Describe economic policies and the development of the capital markets;**
- **Elaborate on the methodology applied to address the above question;**
- **Present and discuss the results;**
- **Review the operational implications.**

II. Economic Background: The Economy and The Financial Sector

Since the late 1960s, Indonesia has made impressive economic progress. Per capita GDP has grown almost as fast as in the rapidly growing countries of East Asia -- an average annual rate of 4.5 percent, compared to 5.5 percent in East Asia. As a result, per capita GDP, which stood at fifty dollars in 1967, is now approaching one thousand dollars.

Moreover, whereas 60 percent of the population (some 70 million people) lived in absolute poverty in 1970, only 14 percent did twenty-five years later (around 27 million people). Its growth record has been matched by similar improvements in the quality of life: a dramatic increase in life expectancy, a halving of the infant mortality rate, and nearly universal primary school enrollment.

In spite of these improvements and accompanying structural changes, there are indications that many workers are still employed at low-productivity levels.[5] For instance, by and large, real wages in the modern sector have tended to remain stagnant or rise very slowly, a sign of ample stocks of low-productivity labor in traditional activities (agriculture and the urban informal sector).

Accordingly, the generation of productive jobs is of consequence for the alleviation of poverty. This perception is reinforced by a recent study that concludes that, despite its fast rise, "modern" wage employment outside government is still not widely available enough to encompass the majority of the work force.[6]

A. Economic Reforms and Financial Sector Development

Economic growth in recent years owes much to economic policy and institutional reforms initiated during the 1980s. In particular, important financial sector reforms were begun in 1982 when Bank Indonesia (BI) began to cut back

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Some of the structural changes that have taken place include: a much more open economy (total trade, i.e. exports plus imports, now exceeds 50 percent of GDP, up from 14 percent in 1965); savings and investment rates have risen; and, manufacturing has become the most dynamic sector since the early 1980s.

Manning, 1995, pages 52-55.

on the use of directed credits for "priority areas".[7] At the same time, interest rate liberalization was initiated, along with other measures to mobilize domestic resources.[8]

A far-reaching set of reforms was begun in October, 1988. The table in Annex I lists and describes the major events in the reform packages of the late 1980s and early 1990s.[9] In general the reform packages included:

- **Banking licenses were made available to new banks that could meet capital requirements.**
- **Licenses for acquiring foreign exchange were simplified.**
- **Domestic banks were allowed freer branching.**
- **Joint ventures with foreign banks were permitted.**
- **Limitations on bank activities were lessened.**
- **State enterprises were allowed to hold up to 50% of their assets with private banks.**
- **Reserve requirements were lowered.**

A stronger, more robust, and more diversified financial system would offer the range of funding and investment tools needed to mobilize large amounts of domestic and foreign capital (foreign capital was deemed essential) to rapidly diversify the Indonesian economy away from oil. Although the financial sector reforms initially focused on the banking sector, by the late 1980s developing the capital and money markets became an important objective. Equity financing was viewed as critical.

In 1988, the Indonesian capital markets were moribund. There were only 24 companies listed on the Jakarta Stock Exchange (JSX), daily trading value was Rp. 122 million and market capitalization was Rp. 449 billion. The JSX was a government entity, operated and regulated by the Ministry of Finance through

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The reform thrust began well before USAID's Financial Market Project (FMP) started to offer technical assistance in the early 1990s.

The liberalization agenda still has a way to go. The existing policy regime still provides trade protection and subsidies to producers of major food commodities, the vehicle industry, and other "strategic" industries. While the conferring of preferential treatment to selected industries surely translates into rent-seeking and inefficiency, the authorities have indicated their commitment to fuller trade liberalization.

See Harwood and Loehr (1995).

BAPEPAM.[10] In December 1988 several regulatory changes were adopted to encourage equity market development, including: removing unnecessarily onerous issuing and disclosure procedures, removing tax disincentives, and encouraging foreign investment. In 1989, further revisions were made to encourage foreign participation in the local equity markets.

The results of these measures were dramatic. On the banking side 75 new banks were licensed between 1988 and 1991; over one thousand new bank branches were created, raising the total to nearly four thousand. In the equity markets, the number of companies listed on the JSX rose from 24 in 1988 to 139 by the end of 1991. Market capitalization jumped from Rp. 449 billion to Rp. 25 *trillion*, average daily trading value from Rp. 122 million to Rp. 32 *billion*, and average daily trading volume from 27,000 shares to 7 *million* shares. This activity was driven largely by the influx of new foreign money, in response to the regulations encouraging foreign participation.

However, in both banking and capital markets, liberalization occurred before prudential regulations, operating standards, and well functioning transaction mechanisms were in place. As a result, both banking and financial markets sectors went through periods of sagging confidence, and sagging market activity. Indeed, the 1991 downturn in stock prices on the JSX was at least partially due to perceptions by investors that the regulatory environment, particularly the disclosure requirements, were inadequate.

Therefore, financial sector development since 1991 has focused on building market infrastructure including regulatory, institutional, and human resources to improve the quality as well as quantity of activity. On the banking side, prudential regulations were adopted in February 1991. On the capital markets side, The Capital Markets Decree of 1990 set comprehensive regulatory standards for the local capital markets, the Jakarta Stock Exchange was privatized in April 1992, and a new clearing corporation was also established in that year.

Since 1991, Indonesia's capital market again expanded rapidly, this time on a firmer institutional footing: the number of registered companies, market capitalization, new capital raised and trading volume are all up dramatically. By May 1995, market capitalization had quadrupled to Rp. 100 trillion, 223 companies were listed and average daily trading volume was about Rp. 130 trillion -- almost five times the 1991 average. The capital markets now are more widely used as an alternative funding source, supplementing and in some cases substituting for bank loans.

BAPEPAM is the agency which supervises the capital market.

How big are new securities issues (equities and bonds) of Indonesian firms compared to commercial bank loans? Table 1 shows that new securities issues increased from 11 percent of total commercial bank loans in 1990 to double that in 1995, and increased from 26 percent of investment loans (with a repayment term of one year or more) in 1990 to 47 percent in 1995. In other words, Indonesia's capital markets are now providing nearly half as much long term capital for business investment as the commercial banking system does, and each year the relative importance of the capital markets increases.

How big are foreign portfolio inflows compared to other external sources of capital inflows? Table 2 shows that foreign portfolio investment was not recorded in the balance of payments until 1992/93, but was included in "other private capital." In 1992/93 and 1993/94, foreign portfolio investment has been of the same order of magnitude as official capital and foreign direct investment; since then, official capital flows have turned negative while foreign direct investment (FDI) has increased rapidly, such that the latter is three times as large as foreign portfolio investment. One can draw two important conclusions from these trends:

- **Foreign portfolio investment constitutes a significant contribution to Indonesia's balance of payments.**
- **Foreign portfolio investment is not a substitute for FDI; if anything, it is complementary to FDI, because an expanding securities market provides foreign direct investors with an "exit strategy" -- an easy way to repatriate their initial investment plus profit by selling shares to the public.**

Table 1. Value of Securities Issues Compared to Commercial Bank Loans (Billions of Indonesian rupiah)

New Securities Issues or Bank Loans	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*
Securities Markets								
Listed companies	*33*	*90*	*155*	*169*	*196*	*224*	*258*	*275*
Equity issues	*153*	*2,102*	*8,011*	*9,217*	*11,395*	*16,065*	*26,529*	*35,395*
Bond issues	*936*	*1,555*	*2,090*	*2,215*	*3,857*	*5,762*	*6,691*	*8,694*
Total Securities	*1,089*	*3,657*	*10,101*	*11,432*	*15,252*	*21,827*	*33,220*	*44,089*
Commercial bank loans								
Total loans	*n.a.*	*n.a.*	*91,178*	*103,237*	*111,991*	*133,478*	*167,442*	*205,326*
Investment loans	*n.a.*	*n.a.*	*38,672*	*43,797*	*47,714*	*58,889*	*76,111*	*94,531*

Ratio of Securities to:								
Total loans	*n.a.*	*n.a.*	*.111*	*.111*	*.136*	*.164*	*.198*	*.215*
Investment loans	*n.a.*	*n.a.*	*.261*	*.261*	*.320*	*.371*	*.437*	*.466*

Source: IMF, "Indonesia -- Recent Economic Developments," SM/96/119; May 22, 1996; Tables 39 & 44.

Table 2. Foreign Capital Inflows in the Balance of Payments (Billions of US dollars)

	1990/91	*1991/92*	*1992/93*	*1993/94*	*1994/95*	*1995/96*
Official capital	*638*	*1,709*	*1,390*	*1,436*	*-251*	*-538*
Foreign direct investment	*1,424*	*1,531*	*1,705*	*1,971*	*2,566*	*5,358*
Portfolio investment	*---*	*---*	*1,201*	*1,981*	*774*	*1,700*
Other private capital	*4,700*	*2,500*	*2,200*	*-1,200*	*3,733*	*7,851*

Source: IMF, "Indonesia -- Recent Economic Developments," SM/96/119, May 22, 1996, Table 45. Data are for fiscal years, which start on April 1.

III. General Methodological Approach

To assess the employment impact of recent stock exchange development in Indonesia, this study follows a two-track approach with different information sources and techniques used in each track.

The first track relies on existing and publicly available information. Some of that information was published, other was taken from JSX records, and still other was obtained from research conducted as part of the USAID-funded Development Studies Project. The essence of the first-track methodology is the application of capital-labor ratios by industry to new investment made possible by the stock exchange to determine the employment resulting from the new investment. Given that what is of interest is the additional real investment that occurred thanks to the stock exchange, the study uses as an estimate of such investment the foreign capital raised through new stock issues: initial and second public offerings, and rights issues.

The implicit assumption is that such investment would not have been otherwise available to Indonesia. While the annual inflows of portfolio capital into Indonesia increased by 42 percent from 1992/93 to 1995/96, annual foreign direct investment inflows increased by 214 percent and other annual private capital inflows increased by 257 percent for the same period.

Moreover, as investment loans consistently rose on a year-to-year basis since 1990 (table 1), and annual growth was much faster after 1992, the parallel increase of foreign portfolio investment with fast-growing investment loans brings to mind that foreign portfolio investment did not substitute for debt. Further, if there was little or no substitution for foreign direct investment, other annual private capital flows, or debt (all of which kept rising at a very fast rate), the implication is that portfolio capital did not substitute or significantly substituted for other capital inflows, but was largely additional to those non-portfolio flows.

The methodology described implies that secondary market transactions are not counted; nor is domestic investment in new stock. From this perspective, the employment generation impact presented here is a lower-bound estimate of such effect.[11]

Moreover, another reason why the methodology yields an underestimate is that it does not take into account the additional borrowing from banks for investment that is induced by the improvement in a company's debt-equity ratio. The incremental investment financed through such lending is a source of additional employment.

The second track consists of firm-level analysis based on data collected from a subset of those enterprises registered on the JSX that raised capital through the exchange since 1990.

At the time of the survey, 223 enterprises were listed in the JSX. As the focus of the study was on assessing direct employment effects (rather than direct and indirect), the authors decided to use a sampling frame that underrepresented financial institutions listed in the exchange.[12]

This led to a sampling frame of some 160 firms. Of those, the authors identified 110 firms to be contacted personally or via questionnaire. The rationale for the selection of such firms was to obtain a broad range of industries represented in the sample while including only firms which had engaged in public offerings during the period under study.

The authors contacted the managers of ten of the 110 firms to test the questionnaire and gather the information directly. These ten firms were chosen on the basis of geographical proximity to Jakarta and availability of the managers.

The remaining 100 firms received the questionnaires via courier. Overall, 34 firms responded positively by providing requested information.

The data was gathered through the application of questionnaires in a two-pronged survey of the firms.

One *prong* involved an eight-page questionnaire completed by the management of the firms, supplying information about the company's balance sheet, payroll, sales, and purchases of intermediate goods. The other *prong* was a nine-page questionnaire completed by several employees (an average of about six) at each firm, supplying information on their pay, job history, household status, and expenditure patterns.

Analysis of the data collected by both surveys -- as well as the analysis elsewhere in this report -- was supplemented and fortified by in-depth interviews conducted by the authors with the management of ten firms mentioned above.

Readers should refer to the methodological annexes (following page 61) for the detailed procedures for processing the information in both tracks and for an elaboration on questionnaire contents and responses.

The rationale is that, in terms of employment, the main impact of financial sector institutions is through indirect employment.

IV. FINDINGS

A. First-Track Results. Applying Capital-Labor Ratios: Employment and the Stock Market Expansion, 1991-94[13]

From the beginning of 1991 until the end of 1994, publicly-listed companies in Indonesia raised Rp. 17.9 trillion in funds on the stock market -- equivalent to about $8.5 billion. Applying capital-labor ratios to this amount of capital raised on the Jakarta Stock Exchange (JSX) -- the cumulative total of initial public offerings (IPOs), secondary public offerings (SPOs), and rights-issues on the JSX -- the present study estimated "new" employment associated with the capital funds.

The capital raised was sorted by industry of company, with details more or less in line with "two-digit" industry-level classifications.[14] As previously explained, industry-specific capital/labor ratios were used to derive specific estimates of new employment for each industry.

In the final step of the estimation, when the number of new jobs attributable to stock market expansion are calculated, the operating assumption was that 42.5 percent of capital raised on the stock market is foreign-sourced.[15]

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13 One difficulty in applying the first-track methodology described above is that, while available capital-labor ratio data are by establishment, stock market data for Indonesia refer to enterprises. (By definition, an enterprise comprises one or more establishments.) As an enterprise may own establishments which belong to different industries, unless one had additional information regarding the uses of stock market capital by establishment, the matching of capital-labor ratios to investments that took place through the stock market involves an element of error. As no such additional information was available, this study assumed that such error is randomly distributed (i.e. the errors cancel each other out) and does not significantly bias the results. See the Annexes for a detailed discussion.

14 The "Standard Industrial Classification" code system can be disaggregated by the number of digits used. At the single-digit level, there are just ten different industries; the two-digit level is more specific, adding detail to the ten industries. SIC codes are also available at the three- and four-digit levels. For example, SIC industries "2" and "3" are both manufacturing; SIC industry "22" is textile mill products; and SIC industry "223" is woolen fabric mill products. As the system adds digits, it adds specificity.

15 This assumption is based on information provided by BAPEPAM and JSX officials. The legal maximum for foreign ownership of shares of a given company is 49 percent. Nonetheless, foreigners participate in over 70 percent of the transactions on the secondary market. In this light, all officials consulted agreed that the study's assumption regarding the

proportion of foreign sourcing of new capital is very conservative as, *de facto*, such proportion might exceed the legal limit.

1. *Procedures*

The Jakarta Stock Exchange (JSX) provided information on the amount of funds raised on the Exchange from 1991 to 1994, sorted by industry. Such information is presented in Annex II. As one may see in the tables in that Annex, interindustry totals vary greatly, with total annual activity heavily concentrated in 1994.

The capital/labor ratios used in the calculations are also presented in Annex II. There are three types of capital/labor ratios used and shown in that table:

- **Industries for which ratios are available from an official data source, the *Biro Pusat Statistik* (BPS). In some cases, the industrial classification of the publicly-listed company comprised two or more industries for which the authors have capital/labor ratios. In those cases, a simple mean of the ratios was used. Because the data from the BPS were for 1992 only, the wholesale price index for capital goods was used to adjust the ratios both backward and forward in years.**

- **Manufacturing industries for which specific ratios were not available from the BPS. For these industries, the average capital/labor ratio for all manufacturing industries was used. Again, the wholesale price index for capital goods was used to adjust this ratio for years before and after 1992. In the table, this second group of ratios appears in ***boldface and italics***. See Annex II for details on how the estimates were generated.**

- **Non-manufacturing industries for which no capital/labor ratios were available from the BPS. For these ratios, the methodology adopted is described in Annex II. In the Annex table, this third group of ratios appears in *italics and underlined*.**

The next step in the estimation of employment generation is applying the capital/labor ratios to the measure of funds raised by industry. Table 3 shows the results of this multiplication, with summary totals. According to this method, the Rp. 17.9 trillion raised on the JSX during 1991-94 was associated with just under 0.7 million new jobs.

However, not all of the Rp. 17.9 trillion is necessarily additional capital, *i.e.*, capital that would not have been available in the absence of a strengthened JSX. The reason is that some degree of substitutability exists between raising capital from the new stock issues and obtaining bank loans. Therefore, the final step in the first-track methodology is the estimate of the number of additional jobs created by *the expansion* of the JSX.

As explained previously, it is assumed that foreign capital invested in new stock issues is additional capital and that the jobs associated with this foreign capital are additional jobs. Using the conservative estimate of 42.5 percent as the foreign share of investment in new stock issues, 0.3 million new additional jobs are estimated to have been created directly due to the strengthened capital markets. This estimate does not take into account indirect job creation. It amounts to about five percent of the new jobs created by the company sector of the entire Indonesian economy over the same period.[16]

Not taking into account indirect employment effects, and the use of a conservative estimate of the foreign share of investment in new stock issues understate employment impact. On the other hand, the downward bias in the employment estimates may be partially offset by higher-than-average marginal capital-labor ratios. In the present study it was not possible to reliably adjust the capital-labor ratios for any labor-saving bias in technological change. This remains an area for analysis in future work. Nonetheless, it is the authors' judgment that it is very unlikely that, for time frame considered, such bias would result in a net overestimate of employment through the capital-labor ratios used.

Table 3. Estimated Employment Generated by Funds Raised on the JSX, by Industry of Company, 1991-94
(Thousands of Employees)

Industry	1991	1992	1993	1994	TOTAL
Cement	3.3	0.0	2.0	4.3	23.4
Ceramics, Glass, Plastics, & Allied Products	1.1	4.5	11.4	17.7	43.7
Chemicals, Adhesive, & Allied Products	2.8	0.0	3.7	0.0	12.1
Paper & Allied Products	0.0	0.0	1.2	4.0	25.1
Rubber & Allied Products	0.0	0.0	0.0	41.6	50.2
Metal, Cable, & Allied Products	1.3	5.2	2.8	35.8	50.6
Automotive & Allied Products	28.5	0.0	26.2	0.0	77.6
Electronics & Allied Products	0.0	0.0	0.0	2.5	9.7
Photographic Equipment & Allied Products	1.8	4.1	0.0	0.0	6.5
Textile & Allied Products	8.7	12.0	4.7	7.2	49.2
Garment & Allied Products	0.0	0.0	21.0	13.2	69.0
Pharmaceutical Products	4.6	1.2	3.7	6.4	18.5
Animal Feeds	2.2	0.0	16.0	6.9	35.2
Food, Beverage, & Tobacco Products	0.8	4.2	3.3	47.1	133.7
Consumer Goods	0.0	0.0	1.8	7.6	9.4
Wholesale & Retail Trade	0.7	2.8	0.2	6.8	10.4
Wood Industry & Allied Products	0.0	0.0	59.8	21.3	81.7
Manufacturing & Trade, n.e.c.	0.0	0.0	10.8	14.2	34.2
Banking	0.5	0.7	20.4	27.0	48.6
Insurance	0.4	0.0	0.0	2.6	3.0
Financial Institution	1.2	0.1	8.8	14.3	24.4
Securities	0.0	0.0	0.0	2.6	2.6
Hotel, Property, Real Estate & Construction	6.1	9.7	8.2	49.9	73.8
Tours & Travel	0.0	0.1	0.8	0.0	1.0
Mining	0.0	0.0	0.0	2.6	2.6
Agribusiness & Related Products	0.0	2.3	0.9	4.8	8.0
Plantations	0.0	0.0	0.0	0.0	0.0
Transportation Service	0.0	0.8	1.1	19.3	21.2
TOTAL	63.9	47.8	208.8	359.9	680.4
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Gain in "Company" Sector Employment - Economy wide	1,285.6	357.4	1,361.8	2,782.6	5,787.3
Gain from Stock Market as Percentage of Total Gain	5.0%	13.4%	15.3%	12.9%	11.8%

Note: Company Sector Employment based on SAKERNAS data.
Annual data might not add to totals shown due to rounding.

B. Second-Track Results: Findings from the 34 Surveyed Firms.

The study now turns to results from the survey. The activity of these 34 firms has continued at an impressive rate during recent years. Figures in table 6 imply that total debt and equity capital raised remained relatively high from 1990 to 1994.

Table 4. Bond-Debt and Equity Capital Raised, by Industry: 1990-94
(Billions of Indonesian rupiah)

Industry	*N*	*1990*	*1991*	*1992*	*1993*	*1994*
Ceramics, Glass, & Plastics	*3*	*38*	*14*	*61*	*0*	*105*
Metals, Cables, & Automotive	*4*	*460*	*279*	*99*	*759*	*250*
Textiles & Garments	*6*	*136*	*158*	*206*	*131*	*58*
Pharmaceuticals, Food, & Animal Feeds	*6*	*968*	*78*	*83*	*146*	*319*
Transportation & Trade	*3*	*38*	*0*	*35*	*0*	*60*
Wood, Paper, & Other Manufacturing	*3*	*268*	*122*	*211*	*860*	*0*
Banking, Insurance, & Finance	*4*	*100*	*0*	*0*	*30*	*274*
Real Estate	*5*	*178*	*0*	*0*	*29*	*72*
All Industries	*34*	*2,186*	*651*	*695*	*1,955*	*1,138*

Source: **Bond data from the Survey of Thirty-four Indonesian Companies, 1995; equity capital from the Jakarata Stock Exchange, 1995.**

Most industry groups in the survey raised capital on either the JSX or the bond market in every single year from 1990 through 1994. While this suggests widespread participation in the capital markets by the industry groups, there was significant dispersion in the share of capital raised by such groups. For example, metals-cables-automotive accounted for some 28 percent of the capital raised during the period, as well as for the highest amount of capital raised per firm. On the other hand, transportation and trade accounted for only two percent of the total capital raised and, likewise, had the lowest ratios of capital raised per firm.

Did size of firm seem to influence a firm's activity in the stock exchange?

To explore the interaction between size of firm and capital raising activity, two alternative measures of size are used: sales in 1990 (*i.e.*, at the beginning of the

period) and the value of fixed assets in 1990.

For each of these measures, firms were classified as follows:

Table 5. Definitions of Size Classifications

Total Sales or Assets in 1990	*Size classification*
Greater than Rp 500 billion	*Very Big*
Between Rp 100 billion and 500 billion	*Big*
Between Rp 50 billion and 99 billion	*Intermediate*
Less than Rp 50 billion	*Smaller*

As indicated in tables 6 and 7, and as one would expect, the very big firms were the ones which raised the highest amount of capital per firm. This was true under either measure of size. However, the relationship between size and capital raised is not linear.

When sales is the indicator of size, it is the smaller firms that raised the least amount of capital per firm. Yet, when fixed assets is the indicator, it is the intermediate-size firms which raised the least amount. This implies that the initial size of a firm is not a reliable indicator of a firm's relative future participation in the stock exchange.

Moreover, under both measures of size, it was the smaller and very big firms -- *i.e.*, the extremes -- that raised the highest proportions of capital.[17] This, of course, means that relatively small firms can account for a sizeable proportion of transactions in a stock exchange, and that the total volume of capital raised by them can more than make up for potentially low levels of capital raised by each of the firms.

17 When size is measured by sales, smaller and very big firms accounted for 31 and 30 percent, respectively, of the capital raised. When measured by fixed assets, smaller firms accounted for 42 percent while the very big firms accounted for 36 percent.

Table 6. Bond-Debt and Equity Capital Raised, by Size of Firm: 1990-94
Firms are Grouped by Total Sales in 1990 or earliest year
(billions of Indonesian Rupiah)

Total Sales in 1990 Were:	*N*	*1990*	*1991*	*1992*	*1993*	*1994*
Greater than Rp. 500 billion	*3*	*1,110*	*254*	*0*	*671*	*461*
Between Rp. 100 billion and Rp. 500 billion	*8*	*706*	*305*	*446*	*865*	*123*
Between Rp. 50 billion and Rp. 100 billion	*4*	*132*	*78*	*159*	*156*	*372*
Less than Rp. 50 billion	*16*	*239*	*14*	*90*	*238*	*181*
Indeterminate Size	*1*	*0*	*0*	*0*	*25*	*0*
All Sizes	*34*	*2,186*	*651*	*695*	*1,955*	*1,138*

Source: **Bond data from the Survey of Thirty-four Indonesian Companies, 1995; equity capital from the Jakarata Stock Exchange, 1995.**
Columns might not add to totals because of rounding.

Table 7. Bond-Debt and Equity Capital Raised, by Size of Firm: 1990-94
Firms are Grouped by Fixed Assets in 1990 or earliest year
(billions of Indonesian Rupiah)

Fixed Assets in 1990 Were:	*N*	*1990*	*1991*	*1992*	*1993*	*1994*
Greater than Rp. 500 billion	*2*	*446*	*254*	*0*	*1,283*	*250*
Between Rp. 100 billion and Rp. 500 billion	*4*	*943*	*280*	*382*	*223*	*0*
Between Rp. 50 billion and Rp. 100 billion	*2*	*77*	*0*	*61*	*0*	*53*
Less than Rp. 50 billion	*26*	*721*	*117*	*253*	*449*	*835*
Indeterminate Size	*0*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
All Sizes	*34*	*2,186*	*651*	*695*	*1,955*	*1,138*

Source: **Bond data from the Survey of Thirty-four Indonesian Companies, 1995; equity capital from the Jakarta Stock Exchange, 1995.**
Columns might not add to totals because of rounding.

C. Second Track Results: Industry, Capital, Employment, and Size of Firm: Potential Interactions

1. *What industry or firm-size groups accounted for most of the capital-raised?*

The next three tables show the total equity capital raised from 1990 to 1994 by the thirty-four companies in the survey sample. The companies are sorted both by industry group and by size of firm.

All industry groups raised equity capital during the period. Companies in the metals, cables, and automotive industry group, as well as the pharmaceuticals, food, and animal feed industry group and the wood, paper, and other manufacturing industry group, raised relatively more equity capital than other groups. Transportation and trade, as well as real estate, were the industry groups that were relatively least active in the market.

Two criteria were used to sort the data by size of firm: level of total sales in 1990 (or earliest year available) by the firm (table 9); and, value of fixed assets in 1990 (or earliest year available) of the firm (table 10).

The distribution of total equity capital raised among companies sorted by level of sales indicates that the two groups of largest firms accounted for a disproportionate share of the capital raised. The largest group itself, comprising only twelve percent of companies in the sample, accounted for thirty-six percent of total equity capital raised. Sorting the companies by the value of fixed assets shows much the same distribution of total equity capital raised.

By either measure, the heavier "weight" of larger firms is not surprising. Those firms also accounted for "more than their share" of total sales or fixed assets, as well as employment and other indicators. Adjusted for size of business operation, the data indicate that firms of all sizes listed on the Jakarta Stock Exchange were active participants in raising equity capital from 1990 to 1994.

[*Tables 8 to 10 follow.*]

Table 8. Total Equity Capital Raised, Sorted by Industry: 1990-94
Data only for the 34 Companies in the Survey Sample

Industry	*Number*	*1990*	*1991*	*1992*	*1993*	*1994*	*Total*
Billions of Indonesian Rupiah							
Ceramics, Glass, & Plastics	*3*	*38*	*14*	*61*	*0*	*105*	*218*
Metals, Cables, & Automotive	*4*	*460*	*25*	*99*	*759*	*0*	*1,343*
Textiles & Garments	*6*	*136*	*158*	*206*	*115*	*58*	*673*
Pharmaceuticals, Food, & Animal Feeds	*6*	*968*	*78*	*63*	*146*	*319*	*1,574*
Transportation & Trade	*3*	*38*	*0*	*35*	*0*	*60*	*133*
Wood, Paper, & Other Manufacturing	*3*	*268*	*0*	*0*	*637*	*0*	*905*
Banking, Insurance, & Finance	*4*	*100*	*0*	*0*	*0*	*274*	*374*
Real Estate	*5*	*178*	*0*	*0*	*29*	*72*	*279*
All Industries	*34*	*2,186*	*275*	*464*	*1,686*	*888*	*5,499*
Percent Share of Total							
Ceramics, Glass, & Plastics	*9*	*2*	*5*	*13*	*0*	*12*	*4*
Metals, Cables, & Automotive	*12*	*21*	*9*	*21*	*45*	*0*	*25*
Textiles & Garments	*18*	*6*	*57*	*44*	*7*	*7*	*12*
Pharmaceuticals, Food, & Animal Feeds	*18*	*43*	*28*	*14*	*9*	*36*	*28*
Transportation & Trade	*9*	*2*	*0*	*8*	*0*	*7*	*2*
Wood, Paper, & Other Manufacturing	*9*	*12*	*0*	*0*	*38*	*0*	*17*
Banking, Insurance, & Finance	*12*	*5*	*0*	*0*	*0*	*31*	*7*
Real Estate	*15*	*8*	*0*	*0*	*2*	*8*	*5*
All Industries	*100*	*100*	*100*	*100*	*100*	*100*	*100*

Note: Numbers might not add to totals because of rounding.
Source: The Jakarta Stock Exchange, 1995.

For the sample of thirty-four companies, 1990 marked the high point of raising capital. By contrast, for all companies listed on the stock exchange, 1994 marked the year of highest volume.

Table 9. Total Equity Capital Raised, Sorted by Size of Firm: 1990-94
Data only for the 34 Companies in the Survey Sample
Firms are Grouped by Total Sales in 1990 or earliest year of data availability

Total Sales in 1990 Were:	*Number of firms*	*1990*	*1991*	*1992*	*1993*	*1994*	*Total*
Billions of Indonesian Rupiah							
Greater than Rp. 500 billion	*4*	*1,110*	*0*	*0*	*671*	*211*	*1,992*
Between Rp. 100 bln and Rp. 500 bln	*8*	*706*	*183*	*235*	*612*	*123*	*1,859*
Between Rp. 50 bln and Rp. 100 bln	*6*	*132*	*78*	*159*	*156*	*372*	*897*
Less than Rp. 50 billion	*15*	*239*	*14*	*70*	*222*	*181*	*726*
Indeterminate Size	*1*	*0*	*0*	*0*	*25*	*0*	*25*
All Industries	*34*	*2,186*	*275*	*464*	*1,686*	*888*	*5,499*
Percent Share of Total							
Greater than Rp. 500 billion	*12*	*51*	*0*	*0*	*40*	*24*	*36*
Between Rp. 100 bln and Rp. 500 bln	*24*	*32*	*67*	*51*	*36*	*14*	*34*
Between Rp. 50 bln and Rp. 100 bln	*18*	*6*	*28*	*34*	*9*	*42*	*16*
Less than Rp. 50 billion	*44*	*11*	*5*	*15*	*13*	*20*	*13*
Indeterminate Size	*3*	*0*	*0*	*0*	*1*	*0*	*~~*
All Industries	*100*	*100*	*100*	*100*	*100*	*100*	*100*

~~ Less than 0.5 but non-zero.
Note: Numbers might not add to totals because of rounding.
Source: The Jakarta Stock Exchange, 1995.

Table 10. Total Equity Capital Raised, Sorted by Size of Firm: 1990-94
Data only for the 34 Companies in the Survey Sample
Firms are Grouped by Fixed Assets in 1990 or earliest year of data availability

Fixed Assets in 1990 Were:	*Number of firms*	*1990*	*1991*	*1992*	*1993*	*1994*	*Total*
Billions of Indonesian Rupiah							
Greater than Rp. 500 billion	*2*	*446*	*0*	*0*	*1,283*	*0*	*1,729*
Between Rp. 100 bln and Rp. 500 bln	*4*	*943*	*158*	*171*	*0*	*0*	*1,272*
Between Rp. 50 bln and Rp. 100 bln	*2*	*77*	*0*	*61*	*0*	*53*	*191*
Less than Rp. 50 billion	*26*	*721*	*117*	*233*	*403*	*835*	*2,309*
Indeterminate Size	*0*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
All Industries	*34*	*2,186*	*275*	*464*	*1,686*	*888*	*5,499*
Percent Share of Total							
Greater than Rp. 500 billion	*6*	*20*	*0*	*0*	*76*	*0*	*31*
Between Rp. 100 bln and Rp. 500 bln	*12*	*43*	*57*	*37*	*0*	*0*	*23*
Between Rp. 50 bln and Rp. 100 bln	*6*	*4*	*0*	*13*	*0*	*6*	*3*
Less than Rp. 50 billion	*76*	*33*	*43*	*50*	*24*	*94*	*42*
Indeterminate Size	*0*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
All Industries	*100*	*100*	*100*	*100*	*100*	*100*	*100*

Note: **Numbers might not add to totals because of rounding.**
Source: **The Jakarta Stock Exchange, 1995.**

Moreover, the figures suggest that smaller-sized firms became relatively more active as time passed. This may mean that only after the regulatory setting was well established, and the stock exchange had expanded sufficiently, did the relatively small firms feel confident to use the JSX as a source of capital.

2. ***Employment and Capital Raised.***

To address the issue of employment impact, it was necessary to work with a subset of 25 surveyed firms which provided the information needed to

estimate employment changes over the period considered.

Tables 11 and 12 show new capital raised and employment generated per year by firms classified according to industry group. The tables show both positive generation of new employment and new capital raised for each of the years, as well as for each industry group for the 4-to-5 year period.

Table 11. Total Equity Capital Raised, Sorted by Industry: 1991-94
Data only for 25 Companies in Survey Sub-sample
Sub-sample Companies Accounted for only 23 Percent of Total Equity Capital Raised from 1991 to 1994
(Billions of Indonesian rupiah, or percent share)

Industry	*Number*	*1990*	*1991*	*1992*	*1993*	*1994*	*Total*	*Percent Share*
Ceramics, Glass, & Plastics	*3*	*38*	*14*	*61*	*0*	*104*	*218*	*5*
Metals, Cables, & Automotive	*4*	*460*	*25*	*99*	*759*	*0*	*1,343*	*33*
Textiles & Garments	*3*	*90*	*158*	*206*	*92*	*0*	*546*	*13*
Pharmaceuticals, Food, & Animal Feeds	*4*	*940*	*78*	*0*	*68*	*0*	*1,086*	*26*
Transportation, Trade, & Other Manufacturing	*2*	*268*	*0*	*5*	*0*	*0*	*273*	*7*
Banking, Insurance, & Finance	*4*	*100*	*0*	*0*	*0*	*274*	*373*	*9*
Real Estate	*5*	*178*	*0*	*0*	*29*	*72*	*279*	*7*
All Industries	*25*	*2,074*	*275*	*371*	*948*	*450*	*4,119*	*100*

Note: Numbers might not add to totals because of rounding.
Source: Survey of Thirty-four Indonesian Companies, 1995.

From 1991 through 1994 the subset of 25 firms generated approximately 41,000 jobs. These firms accounted for just over 23 percent of total equity capital raised for those years. If one assumes that approximately the same proportion holds for total employment generated by firms in the JSX, one may infer that JSX firms generated an estimated 0.2 million jobs for the period.[18] If, to compare with the first-track results, 42.5 percent of these jobs are taken as having been created thanks to the strengthened stock market, the estimated number of jobs is 0.1 million.

Table 12. Full-time Employment Generated After Raising Capital on the Stock Market, Sorted by Industry: 1991-94
Data only for 25 Companies in the Survey Sub-Sample
Sub-sample Companies Accounted for only 23 Percent of Total Equity Capital Raised from 1991 to 1994
(Number of full-time employees)

Industry	*N*	*1991*	*1992*	*1993*	*1994*	*Total*
Ceramics, Glass, & Plastics	*3*	*171*	*2,892*	*348*	*364*	*3,775*
Metals, Cables, & Automotive	*4*	*1,111*	*1,260*	*1,152*	*1,432*	*4,955*
Textiles & Garments	*3*	*2,727*	*2,157*	*2,186*	*544*	*7,614*
Pharmaceuticals, Food, & Animal Feeds	*4*	*1,125*	*3,133*	*2,980*	*4,777*	*12,015*
Transportation, Trade, & Other Manufacturing	*2*	*2,246*	*2,918*	*2,684*	*1,751*	*9,599*
Banking, Insurance, & Finance	*4*	*1,159*	*- 2*	*769*	*- 580*	*1,346*
Real Estate	*5*	*1,232*	*624*	*667*	*- 1,008*	*1,515*

18 The survey data do not show any significant correlation between capital raised and employment generated by industry group. This may have several explanations including:

(a) Lag effects between the time capital was raised and the application of some or all of that capital for operations expansion. For instance, firms in the metals-cables-automotive group raised by far most of their IPO capital only in the last year. In contrast, the pharmaceuticals-food-animal feeds group, which raised its IPO capital in the first two years, and ranked third among the industry groups in terms of IPO capital raised, ranked first in terms of its share of employment generated, and second and third, respectively, in terms of employment and IPO capital raised by firm.

(b) The capital raised may not have been used to expand production, but put to other uses. Moreover, new capital may be used to introduce labor-saving techniques with a resulting fall in employment accompanied by expanding production. However, there are no indications that this last possibility was the case in Indonesia for this period.

All Industries	*25*	*9,771*	*12,982*	*10,786*	*7,280*	*40,819*

Source: **Survey of Thirty-four Indonesian Companies, 1995.**

In the first track methodology, it is assumed that there are no *time lags* between the raising of new capital and the hiring on of new employees. In other words, the estimate of employment generated rests on a simultaneous and direct relationship. By contrast, the second track survey approach allows for the existence of such lags. The estimate of employment generated rests on a response from each company as to how much the hiring on of new employees has progressed.

Given such a key difference in implicit assumptions, the second-track estimates are of a comparable order of magnitude as the first-track results. One may conclude that the true direct employment generation that can be attributed to capital market strengthening during the period lies between 0.1 and 0.3 million jobs. This, of course, does not take into account indirect job creation[19].

3. ***One interesting area of analysis relates to the association between size of firm and employment generation. Which generated more employment: the bigger or the smaller firms?***

Once again the authors grouped the firms in four size classes using, alternatively, total sales and fixed assets to measure size. The distribution of firms was as follows:

Table 13. Classification of Firms by Total Sales and Fixed Assets

Size Class	*By Total Sales*	*Number of firms*	*By Fixed Assets*	*Number of Firms*
Very Big	*> Rp. 500 bln.*	*4*	*> Rp. 500 bln.*	*1*
Big	*Rp. 100 - 500 bln.*	*6*	*Rp. 100-500 bln.*	*4*
Intermediate	*Rp. 50 - 99 bln.*	*4*	*Rp. 50 - 99 bln.*	*2*

19 Indirect jobs are those resulting from the increase in domestic purchases by the surveyed firms. In other words, when the surveyed firms expand their production at some point they will need to increase their purchase of capital and intermediate inputs. Some of those purchases will be from (other) domestic firms. To satisfy the increased demand for their products these other firms are likely to have to increase the number of workers they employ, and their purchases from other domestic firms (including in some cases the surveyed firms). The employment generated as a result of such rounds of purchases is termed here "indirect employment effects".

Smaller	***< Rp. 50 bln.***	***11***	***< Rp. 50 bln.***	***18***
All firms		***25***		***25***

Source: **Survey of Thirty-four Indonesian Companies, 1995.**

One can see that, under both definitions, the modal class is the one for "smaller" firms with the "big" firms class a distant second. The following table shows the relative distribution of firms, employment generated, and new capital raised, according to the size classification.

Table 14. Employment Generated and Total Equity Capital Raised, Sorted by Size of Firm (Percent Shares of All Firms)

	Grouping by Total Sales			***Grouping by Fixed Assets***		
	Number of Firms	***Employment Generated***	***Total Capital Raised***	***Number of Firms***	***Employment Generated***	***Total Capital Raised***
Very Big	***16***	***12***	***48***	***4***	***5***	***27***
Big	***24***	***56***	***29***	***16***	***35***	***31***
Intermediate	***16***	***14***	***9***	***8***	***6***	***5***
Smaller	***44***	***18***	***12***	***72***	***54***	***37***
All Firms	***100***	***100***	***100***	***100***	***100***	***100***

Source: **Survey of Thirty-four Indonesian Companies, 1995.**

The table shows that the "smaller" and "big" firms classes accounted for the bulk of the employment creation, with the "big" class of firms having a more than proportional employment impact relative to its share of the number of firms in the sample subset of 25 firms.

While under any of the two measures of size the class of "smaller" firms generated a substantial volume of employment, relative to their weight in the subsample of firms, the "smaller" firms generated less employment and raised less new capital tan the "big" firms. Likewise, the "intermediate" firms had relatively low shares of employment generation and new capital.

Interestingly enough, for the "very big" firms the proportion of new capital raised is much greater than the relative number of these firms in the subsample, and greater than their share in the employment generated. This might reflect that these firms used very capital-intensive techniques -- involving high ratios of

capital to labor.

By the same reasoning, one could conjecture that in the "big" firms class, the sample has picked up firms which use relatively labor-intensive production techniques and that this accounts for the much larger share in employment-generated-to-capital-raised ratios. It also means that the employment generated-per-firm was very high compared to the other size classes.

Now, while the data does give rise to the above hypotheses, one has take into account that the sample is relatively small, with few observations (i.e., firms) in some cells of the above table. Moreover, the fact that the sample does not allow one to control for industry type might distort the results.

Nonetheless, the data strongly suggest that:

- **Contrary to a current of opinion that attributes to firms listed on the stock market of a certain size a key role in generating additional employment, size of firm may not be a dominant variable in employment generation;**
- **Firms of various sizes listed on the stock market can generate significant amounts of employment; and,**
- **Employment can be influenced by both the growth in firms as well as by the entry of new, perhaps smaller firms on the stock market.**

A methodological byproduct of this analysis is that different measures of size -- sales as opposed to employment, for example -- can result in significantly different size-classification of firms and different results between size and other variables.

***Finally, the data are consistent with the proposition that, rather than a focus on firms registered on the stock exchange, or even a focus on industry group, employment policy should aim at fostering a policy and regulatory environment that encourages employment generation via the growth of existing firms, as well as through the creation or entry of new firms registered on the stock exchange without an attempt at targeting sectors. While, for some readers, this proposition may be self-evident, it is at odds with some donor policies of the last 20 years which have attempted to target type*s of firms classified by size or industry, for example.**

D. Breakdown by Occupation and Gender: New Employment in Surveyed Firms

The following comments are based on the analysis of responses by surveyed firms. As mentioned in section IV.C.4, although thirty-four companies completed questionnaires, only twenty-five of the responding firms were used for estimates of employment generation. This section is based on the smaller subset of firms.

Another limitation faced in tracing out the gender impact was that, while companies were asked to provide figures for total, male, and female employment, not all firms consistently provided the gender split. In fact, for twenty percent of the employees, the gender was not identified. Therefore, the estimate of total employment generated by the twenty-five companies is 40,819 during 1991-94, but the gender of these workers is only known for 32,626 employees.

1. *Occupational Structure of Employment Created*

A first insight into the occupational structure can be obtained by classifying the jobs created as blue or white collar. The blue-collar jobs are essentially jobs that require significant physical effort or dexterity. White-collar workers are those who perform duties relating to administrative support and authority-related functions.

As shown in Table 16, the firms surveyed generated slightly more than twice as much blue collar employment as white collar employment. Nonetheless, the latter, at 30 percent of the jobs created was significant. These numbers suggest that the new employment opportunities reached both manual and non-manual workers. As all the surveyed firms are in the modern sector, in all likelihood they are relatively high-paying -- this assumption is corroborated by data on wages presented in other sections of this study. This would mean that the firms have been a source of high paying jobs for a broad range of workers.

Moreover, manual workers frequently have lower educational levels than white-collar workers, and by and large, come from lower-income families. Accordingly, it is likely that the surveyed firms have been a source of significant modern-sector jobs to workers of modest means.

Nonetheless, have the blue collar jobs been for skilled or non-skilled workers? The answer, as shown in Table 17, is that for the most part (some 77 percent) they have consisted of skilled jobs. As shown in Table 18, some 34 percent of the white-collar jobs were in the administrative and technical-

supervisory categories, another indication of a strong source of demand for skills.

The figures in Tables 16 and 17 mean that some 90 percent of the jobs created have been for either white-collar or skilled blue-collar workers. As the firms surveyed are relatively high paying, to the extent that they are representative of the set of firms whose securities are traded in the stock exchange, *one may conclude that the stock exchange firms indeed have a significant beneficial impact on worker mobility and generate a demand for investment in education and training. Needless to say, these are factors that stimulate economic growth and development.*

2. *What About Employment by National Origin?*

The proportion of new jobs that went to workers of non-national origin was negligible: less than one-half of one percent (Table 19). This, of course, means that *virtually all of the benefits associated with modern sector employment went to Indonesians.*

3. *Have women benefited from the new employment opportunities in the surveyed firms?*

The issue is important because it sheds light on whether and how capital-raising in the stock exchange is likely to be affecting the female segment of the labor force, which is generally deemed as in disadvantage relative to its male counterpart. As such, the gender-disaggregation of new job creation is a subdimension of income distribution aspects. Moreover, the issue is relevant also for economic growth. To the extent that the productive capacities of women in the labor force are allocated efficiently in the labor market, there will be a beneficial impact on economic growth.

As shown in Table 20, and as noted above, it was not possible to determine the gender of some 20 percent of the new hires during the period. However, from the workers whose gender was specified, one can tell that approximately 44 percent were female workers. If one bears in mind that in 1995 female workers comprised only some 33 percent of the formal sector labor force, the survey results indicate that the stock exchange firms were absorbing women workers in a higher proportion than the economy as a whole. In other words, *the surveyed firms created a relatively high proportion of modern-sector jobs for women.*

4. *What was the occupational profile of the newly hired women and men?*

As the distribution below shows, women were concentrated in skilled blue-

collar jobs -- around 66 percent. In contrast, skilled blue-collar jobs accounted for less than 50 percent of the jobs occupied by males. The difference is reflected in a greater weight of males in all other occupational categories.

It is noticeable that women seem to be underrepresented at the extremes of the occupational hierarchy of the jobs created. On the one hand, they are a lower proportion than men in the unskilled blue-collar jobs. On the other, and more strikingly, they are a much smaller proportion than men in the prestige highest-paying technical-supervisory and administrative white- collar occupations.

The story might well be that the stock exchange firms are good entry points into the labor market for skilled female workers where they come into "production type" occupations. However, women's entry into the higher rungs of the occupational scale is much harder.[20]

These conclusions are consistent with the gender composition by employment group shown in Table 21. This table shows that more women than men occupied the skilled blue-collar jobs, but that a much higher number of men went into unskilled blue-collar slots. At the other end, men prevailed by far in the technical-supervisory and administrative occupations.

In conclusion, the evidence reviewed in this section suggests that the surveyed firms are a source of modern sector jobs for a broad range of Indonesian workers, place a high premium on skills, and are a significant source of employment creation for women.

[*Tables 15 through 21 follow*.]

20 Whether this occurs because of cultural barriers or lower amounts of education and training is beyond the scope of this study.

Table 15. Distribution of Net New Jobs, Sorted by Gender and Occupational Category (Number of full-time employees or percent share)

	Females		Males	
	Absolute Numbers	Percent Share	Absolute Numbers	Percent Share
Skilled Blue Collar	9,587	66	8,778	47
Unskilled Blue Collar	2,428	17	4,141	23
Administrative White Collar	684	5	1,564	9
Technical-Supervisory White Collar	136	1	1,079	6
Clerical & Other White Collar	1,516	11	2,713	15
Total	14,351	100	18,275	100

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 16. Composition of Employment Generated by Sub-Sample Group of 25 Indonesian Companies, 1991-94 Number of workers represents net new hires in period Blue-collar versus White-collar

	1991	1992	1993	1994	Total
Number of workers					
Blue-collar Workers	6,523	9,954	6,001	5,962	28,440
White-collar Workers	3,248	3,028	4,785	1,318	12,379
Total Workers	9,771	12,982	10,786	7,280	40,819
Percent of total					
Blue-collar Workers	67	77	56	82	70
White-collar Workers	33	23	44	18	30
Total Workers	100	100	100	100	100

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 17. Composition of Blue-collar Employment Generated by Sub-Sample Group of 25 Indonesian Companies, 1991-94 Number of workers represents net new hires in period Skilled versus Unskilled

	1991	1992	1993	1994	Total
Number of workers					
Skilled	3,961	7,675	3,504	6,715	21,855
Unskilled	2,553	2,219	2,517	-809	6,480
Not Determined by Survey	9	60	-20	56	105
Total Blue-collar Workers	6,514	9,894	6,021	5,906	28,440
Percent of total					
Skilled	61	77	58	113	77
Unskilled	39	22	42	-14	33
Not Determined by Survey	~~	1	~~	1	~~
Total Blue-collar Workers	100	100	100	100	100

~~ percent share of less than one-half of one percent, but non-zero.
Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 18. Composition of White-collar Employment Generated by Sub-Sample Group of 25 Indonesian Companies, 1991-94
Number of workers represents net new hires in period
Administrative, Technical, Clerical, & Other

	1991	1992	1993	1994	Total
Number of workers					
Administrative	763	787	727	568	2,845
Technical/Supervisory	419	530	278	178	1,405
Clerical	1,416	1,224	1,078	608	4,326
Other White-collar	626	499	2,695	-51	3,769
Not Determined by Survey	24	-12	7	15	34
Total White-collar Workers	3,248	3,028	4,785	1,318	12,379
Percent of total					
Administrative	23	26	15	43	23
Technical/Supervisory	13	18	6	14	11
Clerical	44	40	23	46	35
Other White-collar	19	16	56	-4	30
Not Determined by Survey	1	~~	~~	1	~~
Total White-collar Workers	100	100	100	100	100

~~ percent share of less than one-half of one percent, but non-zero.
Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 19. Composition of Employment Generated, Sorted by National Origin for Sub-Sample Group of 25 Indonesian Companies, 1991-94
Number of workers represents net new hires in period
National versus Non-national

	1991	1992	1993	1994	Total
Number of workers					
National Origin	9,738	12,934	10,799	7,209	40,680
Non-national Origin	33	48	-13	71	139
Total Workers	9,771	12,982	10,786	7,280	40,819
Percent of total					
National Origin	100	100	100	99	100
Non-national Origin	~~	~~	~~	1	~~
Total Workers	100	100	100	100	100

~~ percent share of less than one-half of one percent, but non-zero.
Note: From 1991 to 1994, the non-national origin component of all employment generated by these 25 companies is estimated as 0.34 percent.
Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 20. Composition of Employment Generated, Sorted by Gender for Sub-Sample Group of 25 Indonesian Companies, 1991-94
Number of workers represents net new hires in period

	1991	1992	1993	1994	Total
Number of workers					
Female Workers	1,335	4,874	3,314	4,828	14,351
Male Workers	5,467	6,424	9,980	-3,596	18,275
Not Determined by Survey	2,969	1,684	-2,508	6,048	8,193
Total Workers	9,771	12,982	10,786	7,280	40,819
Percent of total					
Female Workers	14	38	31	66	35
Male Workers	56	49	93	-49	45
Not Determined by Survey	30	13	-23	83	20
Total Workers	100	100	100	100	100

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 21. Composition of Employment Generated, Sorted by Gender and Occupational Group for Sub-sample Group of 25 Indonesian Companies, 1991-94
Number of workers represents net new hires in period

	1991		1992		1993		1994		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Skilled blue-collar										
Total workers	3,961	41	7,675	59	3,504	32	6,715	92	21,855	54
Female workers	659	7	3,275	25	913	8	4,740	65	9,587	23
Male workers	2,454	25	3,576	28	1,626	15	1,122	15	8,778	22
Gender not determined	848	9	824	6	965	9	853	12	3,490	9
Unskilled blue-collar										
Total workers	2,553	26	2,219	17	2,517	23	-809	-11	6,480	16
Female workers	357	4	1,197	9	1,062	10	-188	-3	2,428	6
Male workers	1,682	17	1,248	10	6,207	58	-4,996	-69	4,141	10
Gender not determined	514	5	-226	-2	-4,752	-44	4,375	60	-89	~~
Administrative white-collar										
Total workers	763	8	787	6	727	7	568	8	2,845	7
Female workers	142	1	204	2	170	2	168	2	684	2
Male workers	430	4	509	4	373	3	252	3	1,564	4
Gender not determined	191	2	74	1	184	2	148	2	597	1
Technical/Supervisory white-collar										
Total workers	419	4	530	4	278	3	178	2	1,405	3
Female workers	46	~~	57	~~	19	~~	14	~~	136	~~
Male workers	274	3	431	3	217	2	157	2	1,.079	3
Gender not determined	99	1	42	~~	42	~~	7	~~	190	~~
Clerical and other white-collar										
Total workers	2,042	21	1,723	13	3,773	35	557	8	8,095	20
Female workers	131	1	141	1	1,150	11	94	1	1,516	4
Male workers	627	6	660	5	1,557	14	-131	-2	2,713	7
Gender not determined	1,284	13	922	7	1,066	10	594	8	3,866	9

~~ percent share of less than one-half of one percent, but non-zero.
Source: Survey of Thirty-four Indonesian Companies, 1995.

E. Labor Incomes of Workers in the Surveyed Firms

This section assesses two main issues:

(1.) How the growth of wages in the surveyed firms compare to the growth of wages in the economy.

(2.) How the wages of workers hired after the firms began raising capital in the JSX in 1990 compare to the wages of other workers.

To address the issue of workers' pay performance, this section relies on information provided in the questionnaires of the surveyed workers to calculate a median real wage growth rate in surveyed firms.[21] The information used consisted of:

- **amount of the most recent paycheck,**
- **start date of the present job,**
- **amount of the last paycheck in preceding job, and**
- **whether both present and preceding jobs were full-time.**

All of these one hundred workers were relatively well-educated in the Indonesian context: fifty-six had some university education and forty-two some high school education, while the educational level of the other two was undetermined.

To calculate the rate of growth in wages the study followed the steps described next.

1. *Procedures*

i. **Data records were sorted to determine how many respondents clearly provided the needed information. This process determined that only 100 workers out of the 214 total provided all the information. The analysis of the relative wage growth in the surveyed firms has been based on the information provided by these 100 workers.**

For some of the workers who did not provide the information, the calculation was irrelevant, because they did not have a job prior to the present job. This was true for at least a dozen of the workers whose records were excluded. Another fifteen of the workers answered the

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21 The information was provided on questionnaire forms. See the Annex on survey instruments.

questions about paychecks, but their present full-time job had been preceded by a part-time job. In addition, one worker reported that both jobs were part-time, but this data record was excluded because of uncertainty over the comparability of hours worked. For other workers who did not provide all of the information, their exclusion reflects that they left spaces blank on their questionnaire.

To analyze the performance of wages of workers hired after the firms raised capital in the JSX one had to further stratify the sample of workers providing full information. The 100 workers which had provided all the needed information were then sorted by the start date, and 21 of the workers were excluded from the sub-sample because they reported a start date prior to 1990. Accordingly, the analysis of the wages of workers hired after the firms raised capital in the JSX is based on the answers of 79 workers. These 79 workers will be referred to as the "new hires" as opposed to the other workers (the "old hires").

ii. **An estimate of job tenure in months was generated by comparing the "start date" of the present job with the date of the survey, assumed to be July 1995. For some of the survey respondents, the "old hires", the start date is as long ago as 1974.**

iii. **Although most of the respondents reported being paid monthly at both the present and the preceding jobs, some did not. The data on paychecks were adjusted by the frequency of pay so that all data used in this calculation represents monthly pay.**

iv. **Although virtually all the data on paychecks were reported in Indonesian rupiah, some of the respondents reported their paycheck in terms of U.S. dollars. In those cases, the average monthly exchange rate, as reported in the IMF's *IFS,* was used to convert the data into Indonesian rupiah. In the case of paychecks from the present job, the average exchange rate for July 1995 (Rp. 2,251.6 = US$) was used. In the case of the paychecks from the preceding job, the exchange rate prevailing at the time was used.**

v. **Based on the assumption that the preceding job ended just before the present job began, the data on the last paycheck in the preceding job was deflated by using monthly estimates for the Consumer Price Index.[22]**

The month July 1995 was set equal to 100, and all other inflation data

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22 The source of the CPI was the International Monetary Fund's *International Financial Statistics*.

were re-based accordingly. So all wages were expressed in 1995 prices.[23]

vi. The cumulative percentage change in "real" wages in the present job was then calculated for each of the 100 or 79 workers, as appropriate. Based on time-in-job, this cumulative percentage change was transformed to an annual growth basis.[24]

vii. After the preceding calculations and transformations were carried out for all 100 and 79 subsets of data records, the growth rates were sorted by gender, educational achievement, job tenure, company, industry, and present level of pay. The tables on the following pages indicate the median annual growth rates and job tenure (in years) resulting from this analysis.

2. *Results*

i. Wages in surveyed firms

As indicated in Table 22, the median growth rate of real wage income was higher among female workers, and among male workers was higher for those with a high school education.

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23 Given that the annual rate of inflation in Indonesia averaged nearly eight percent in the decade prior to the survey, there is an obvious need for an adjustment to real terms in the analysis.

24 The standard formula for compound annual growth, g, over n number of years, was used:

$$g = \left[\left[\frac{\text{present paycheck}}{\text{preceding paycheck}}\right]^{\left(\frac{1}{n}\right)}\right] - 1$$

Table 22. Median Annual Growth of Real Wages, Sorted by Gender and Education

	Number of workers	Median Annual Growth Rate of Real Wages	Median Job Tenure (years)
Total	100	+ 9.3%	3.3
Some High School Education	42	+ 11.6%	3.2
Some University Education	56	+ 8.1%	3.4
Not determined	2	+ 3.1%	4.3
Female	32	+ 13.4%	2.8
Some High School Education	17	+ 13.4%	2.3
Some University Education	14	+ 13.6%	2.6
Not determined	1	+ 5.9%	4.9
Male	67	+ 8.2%	3.4
Some High School Education	26	+ 10.8%	3.2
Some University Education	41	+ 7.3%	3.5
Gender not determined	1	+ 0.3%	3.8

Source: Survey of Thirty-four Indonesian Companies, 1995.

The median growth rates in the preceding table do not convey the wide dispersion in growth rates among individual workers. However, although with a significant dispersion, nearly all workers recorded at least a small gain in real wage income. Table 23 shows the number of workers who experienced gains, no changes, and declines in real wages.[25]

25 It is worth pointing out that the negative growth of real wages does not mean that wage income necessarily actually declined, only that it failed to at least keep up with inflation.

Table 23. Median Annual Growth of Real Wages, Sorted by Gender and Education

	Number	Gain	Unchanged[26]	Decline
Total	100	81	1	18
Some High School Education	42	37	1	4
Some University Education	56	42	0	14
Not determined	2	2	0	0
Female	32	28	0	4
Some High School Education	17	16	0	1
Some University Education	14	11	0	3
Not determined	1	1	0	0
Male	67	52	1	14
Some High School Education	26	22	1	3
Some University Education	41	30	0	11
Gender not determined	1	1	0	0

Source: Survey of Thirty-four Indonesian Companies, 1995.

The data records were also sorted by length of job tenure. In Table 28, median growth rates of real wage income are sorted by length of job tenure. For the most part, the median growth rate declines as job tenure rises. However, for workers with more than eight years' tenure, the median growth rate does pick up.

26 Defined as $\pm$ .05 percent annual rate.

Table 24. Median Annual Growth of Real Wages, Sorted by Length of Job Tenure

	Number of workers	Median Annual Growth Rate of Real Wages
Total - All Workers	100	+ 9.3%
Job tenure is:		
Less than one year	19	+18.4%
Between one and two years	16	+15.1%
Between two and three years	11	+10.8%
Between three and four years	14	+14.3%
Between four and five years	12	+ 7.9%
Between five and six years	10	+ 2.4%
Between six and eight years	12	+ 6.1%
More than eight years	6	+11.6%

Source: Survey of Thirty-four Indonesian Companies, 1995.

Sorting the data by the company which employs the worker shows that the median gain of 9.3 percent is broadly representative.[27] There are a few countries for which the median gain was much lower or much higher than 9.3 percent. However, in these cases, the data have been swayed by the small number in the sample (from two to four) or by the fact that job tenure for the worker is relatively short (less than six months).

The data were also sorted by the industry of the company which employs the worker. Sixteen different industries are represented in the sample of workers for the real wage income growth calculation.

27 Questionnaires were received from workers at 34 different companies and it was possible to calculate the measure of real wage income change for workers at 29 of these firms. The graph does not include data for seven firms with only one worker in the wage income sample.

Table 25. Median Annual Growth of Real Wages, by Industry

Industry of Company	Number of Workers	Median Annual Growth Rate of Real Wages
Total - All Workers	100	+ 9.3%
Ceramics, Plastics, and Glass	10	+10.2%
Paper	8	+11.3%
Metal and Cables	4	+ 1.0%
Auto	1	- 5.8%
Textiles	8	+ 9.9%
Garments	7	+19.7%
Pharmaceuticals	1	+19.5%
Animal Feeds	4	+44.7%
Food	7	+ 5.6%
Wholesale and Retail Trade	5	+25.9%
Wood	9	+12.4%
Other Manufacturing	4	+22.1%
Banking	3	+ 5.5%
Insurance	2	-10.6%
Real Estate and Construction	21	+ 8.0%
Transportation Service	6	+ 2.4%

Source: Survey of Thirty-four Indonesian Companies, 1995.

Finally, the data were sorted by the present level of pay reported by the worker. In the table on the next page, growth rates of real wage income have been sorted into five pay ranges. The highest median annual growth rate was in the middle-income group, with a monthly paycheck greater than one million rupiah and no higher than two million rupiah.

Table 26. Median Annual Growth of Real Wages, by Present Level of Pay

Present Level of Pay (in millions of Rupiah)	Number of Workers	Median Annual Growth Rate of Real Wages
Total - All Workers	**100**	**+ 9.3%**
Present Monthly Paycheck is:		
0.5 or less	**15**	**+ 2.6%**
Greater than 0.5 but no higher than 1.0	**25**	**+ 6.6%**
Greater than 1.0 but no higher than 2.0	**32**	**+13.6%**
Greater than 2.0 but no higher than 4.0	**20**	**+ 9.5%**
Greater than 4.0	**8**	**+ 4.3%**

Source: Survey of Thirty-four Indonesian Companies, 1995.

Overall, the median annual growth rate of real wage income for all workers -- 9.3 percent -- represents a relatively good pay increase. For example, according to the 1995 World Development Report from the World Bank, manufacturing wages in Indonesia grew at an average 5.5 percent annual rate from 1970 to 1991. The wage gains of the workers in our sample are in line with manufacturing wage growth in Korea from 1966 to 1991, at a 9.1 percent average annual rate.

Another way to put a median growth rate of 9.3 percent into perspective: the World Bank projects that annual growth of skilled wages for the East Asia region will range from 2.7 to 3.8 percent during the 1994 to 2010 period. Those growth rates, less than half the rate of the workers in our survey, are projected to be the highest in the world.

ii. Wage Growth of the Newly Hired

As happened when the wages of all workers were analyzed, for the newly hired the median growth rate of real wage income was higher among female workers, as well as among those with a high school education. Moreover, nearly all workers recorded at least a small gain in real wage income (Tables 27 and 28).

Furthermore, as with all workers, the median growth rate declines as job tenure rises (table 29). More telling, the workers hired after the firms raised capital in the JSX, *i.e.*, the newly hires, experienced an annual growth rate in

their wages which was slighter higher than the growth of the wages for all the workers: 9.7 versus 9.3 percent.

As done previously for all workers, Tables 30 and 31 present data on wage growth sorted by industry and pay ranges. The patterns are no different than the ones observed for all workers.

In conclusion, the firms surveyed are high wage-growth firms and workers hired after the firms raised new capital in the JSX experienced a significant increase in their wages. This means that, other things equal, and if the historical trends persist, employees hired by these firms can expect to do relatively well compared to workers in most other sectors.

***[Tables 27 to 31 follow.*]**

Table 27. Median Annual Growth of Real Wages, by Gender and Education

	Number of workers	Median Annual Growth Rate of Real Wages	Median Job Tenure
Total	**79**	**+ 9.7%**	**2.3**
High School Education	**29**	**+ 17.1%**	**2.2**
University Education	**48**	**+ 8.1%**	**2.4**
Not determined	**2**	**+ 3.1%**	**4.3**
Female	**25**	**+ 14.3%**	**1.5**
High School Education	**13**	**+ 16.7%**	**1.5**
University Education	**11**	**+ 14.3%**	**0.9**
Not determined	**1**	**+ 5.9%**	**4.9**
Male	**53**	**+ 8.0%**	**2.6**
High School Education	**16**	**+ 18.3%**	**3.2**
University Education	**37**	**+ 7.8%**	**3.5**
Gender not determined	**1**	**+ 0.3%**	**3.8**

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 28. Median Annual Growth of Real Wages, by Gender and Education

	Number	Gain	Decline
Total	**79**	**65**	**14**
High School Education	**29**	**26**	**3**
University Education	**48**	**37**	**11**
Not determined	**2**	**2**	**0.00**
Female	**25**	**23**	**2**
High School Education	**13**	**13**	**0.00**
University Education	**11**	**9**	**2**
Not determined	**1**	**1**	**0.00**
Male	**53**	**41**	**12**
High School Education	**16**	**13**	**3**
University Education	**37**	**28**	**9**
Gender not determined	**1**	**1**	**0.00**

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 29. Median Annual Growth of Real Wages, by Length of Job Tenure

	Number of workers	Median Annual Growth Rate of Real Wages
Total - All Workers	79	+ 9.7%
Job tenure is:		
Less than one year	19	+18.4%
Between one and two years	16	+15.1%
Between two and three years	11	+10.8%
Between three and four years	14	+14.3%
Between four and five years	12	+ 7.9%
Between five and six years	7	+ 0.9%

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 30. Median Annual Growth of Real Wages, by Industry

Industry of Company	Number of Workers	Median Annual Growth Rate of Real Wages
Total - All Workers	**79**	**+ 9.7%**
Ceramics, Plastics, and Glass	8	+ 6.1%
Paper	3	+21.9%
Metal and Cables	4	+ 1.0%
Textiles	4	+ 9.5%
Garments	7	+19.7%
Pharmaceuticals	1	+19.5%
Animal Feeds	4	+44.7%
Food, Beverages, and Tobacco	6	+ 6.2%
Wholesale and Retail Trade	5	+25.9%
Wood	4	+54.1%
Other Manufacturing	4	+22.1%
Banking	3	+ 5.5%
Insurance	2	-10.6%
Hotels, Property, Real Estate, and Construction	20	+ 8.6%

Table 30. Median Annual Growth of Real Wages, by Industry

Industry of Company	Number of Workers	Median Annual Growth Rate of Real Wages
Transportation Service	4	+ 1.3%

Source: Survey of Thirty-four Indonesian Companies, 1995.

Table 31. Median Annual Growth of Real Wages, by Present Level of Pay

Present Level of Pay (in millions of Rupiah)	Number of Workers	Median Annual Growth Rate of Real Wages
Total - All Workers	79	+ 9.7%
Present Monthly Paycheck is:		
0.5 or less	13	+ 2.4%
Greater than 0.5 but no higher than 1.0	21	+ 8.2%
Greater than 1.0 but no higher than 2.0	23	+17.1%
Greater than 2.0 but no higher than 4.0	15	+ 9.7%
Greater than 4.0	7	+ 6.8%

Source: Survey of Thirty-four Indonesian Companies, 1995.

F. Of Human Interest: How Real Lives Have Been Affected

From the previous sections, the picture that emerges of the labor market impact of the surveyed firms is that they have generated significant new employment, that the new jobs have been for both men and women, and that the firms have been a source of fast wage increases. Moreover, as these are firms whose securities are traded in the stock exchange, they are firms which offer modern-sector jobs.

In addition, as Indonesia is undergoing a process of economic liberalization and increased market openness, they are firms whose subsistence and growth has tended to increasingly depend on the extent to which they are able to compete in the market place. Given the policy thrust toward an ever more open economy, the prospects are that these trends will be even more pronounced in the near future.

1. *So, what has all this meant for real people? What is the human dimension behind the aggregate statistics that, overall, suggest a positive and strong labor market impact?*

To address these questions, this section provides a profile of workers affected by the jobs created in the surveyed firms. They reflect actual life histories of individual workers. Questionnaires filled out by workers in the surveyed firms provided the source of the information.[28]

Table 32 on the next page shows how workers with sufficiently complete responses were sorted by gender and age.

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28 See methodological section. The *Survey of Workers of Firms That Have Raised Equity Capital* acquired detailed information about demographics, education, income, job tenure, occupational history, household, consumption, and housing. Because the survey was conducted on a premise of confidentiality, no mention is made of any company or individual names. Of the 214 workers in the survey, most responses were sufficiently complete to identify the age and gender of the worker.

Table 32. Workers in Survey Sample, By Gender and Age

Age group	Female	Male	Total
under 20	0	0	0
between 20 and 29	40	46	86
between 30 and 39	32	59	91
between 40 and 49	6	18	24
between 50 and 59	1	7	8
60 and over	0	2	2
All ages	79	132	211

Source: Survey of Thirty-four Indonesian Companies, 1995.

The table indicates that gender balance increases for younger employees, a feature which is consistent with greater equality of educational opportunities in recent years.

The responses to the questionnaires were used to construct "profiles-in-prose" of Indonesian workers. Fictional personal names have been created for each worker. The workers' actual names, as well as the identity of the companies for which they work, remain confidential.

A common thread is that employment in these firms have helped the workers enjoy access to the appurtenances common in the lives of workers in advanced economies. They suggest that the firms encourage high worker mobility, especially within industry.

By and large, these employees seem to portray young workers of both sexes with low-to-middle incomes and middle-to-high education. This is consistent with what one would expect in modern-sector firms of an emerging market economy.

2. *The Life Profiles*

Herwidayatmo: a young man, household head, with some secondary education

Herwidayatmo works full-time at a pharmaceuticals company and is in his thirties. He attended secondary school, but did not graduate. Herwidayatmo joined his present company towards the end of 1991, leaving behind a job at a rival pharmaceuticals company. He commutes by public transportation, traveling more than two hours round-trip each day, from a rented house that he shares with his one child still at home. Herwidayatmo also supports two children who live elsewhere and attend college.

He takes home more than three hundred thousand rupiahs each month, nearly three times the paycheck at his old job. When he or his children are sick, Herwidayatmo goes to the doctor and is reimbursed by his employer for the expenses. Although he only eats meat sparingly, his consumption of meat has gone up since starting his present job. He relies on the salary from this job to pay for all the grocery bills. Herwidayatmo has purchased a new radio, television, and electric fan since joining his present company.

Efti: young, single, college-educated, recent labor-force entrant, female

Efti works full-time for a manufacturing company in the agricultural processing sector. She attended university and is currently studying part-time in Jakarta. Still in her twenties, Efti lives at home with her family. Although she has not started a personal savings account, Efti is having part of her paycheck set aside for retirement. She uses public transportation to get to work, spending ninety minutes every morning. If she did not have her current job, Efti thinks that she would probably work for a bank in the customer service department. She has been working for the manufacturing company less than one year, having been at university before being hired. Efti takes home more than eight-hundred-thousand rupiahs every month. When she is sick, Efti goes to a private doctor, using an annual medical allowance from her employer to cover the bills. In the past year of employment at her present job, she eats vegetables more frequently and maintains her daily consumption of meat. The family does not rely on Efti's paycheck to pay the grocery bills or the housing costs.

Kartini: young, single, female, with vocational education

Kartini works full-time at a wholesale trading company and takes home a half-million rupiahs each month in her paycheck. Still in her twenties, she attended vocational high school and lives at home with her family. Kartini joined her present employer just three months ago, and has already seen a

twenty-percent boost in her pay compared with her old job at a rival wholesale trading company. She did not need to move in order to take this new job, and hops on public transportation every morning for the fifteen-minute ride to the office. Even though her company does not offer her a pension plan, Kartini has some of her paycheck set aside for retirement and has also started her own personal savings account. When she is sick, Kartini goes to a private doctor and her employer reimburses her for eighty-five percent of her costs.

Juni: high-school graduate, single male and living with friends

Juni is a young man working full-time for a ceramics and glass manufacturer. He started his present job only about a half year ago, leaving a position at another company in the same industry. Juni lives in a rented house with two other people, and takes public transportation for the fifteen-minute commute to work. Since starting this job, he has been able to move to what he considers a better neighborhood. Even though Juni's monthly paycheck of about a quarter million rupiahs is not much higher than what he made at his old job, he has been able to buy a new television and electric fan since changing jobs. And even though he is still in his twenties, Juni is having part of his paycheck set aside for retirement and also has a personal savings account. In addition, the company provides him with a pension plan and a lump-sum payment upon retirement. When Juni gets sick, he goes to a private doctor and covers the costs out of a medical allowance from his employer. Although Juni relies on his paycheck to pay all his grocery bills, he is able to split the rent among the two other people sharing his house.

Lanna: female with some college education, married, with children

Lanna is a woman in her thirties who presently works full-time for a company in the wood products industry. She attended university but is no longer a student. Each month, she takes home about one-and-a-half million rupiahs. Her round-trip commute, by public transit, is about three hours each day. Before starting her current job, Lanna attended college and worked odd jobs to pay the bills. Although her company does not offer a pension fund, she will receive a lump-sum payment upon retirement. Lanna and her husband own their house, where they live with their only child. While Lanna is at work, their child attends private school. Without her paycheck the family would not afford the private school tuition for the child, nor most of the current grocery bills, or the mortgage. When they are sick, Lanna and her family visit either their family doctor or the local clinic. In either case, Lanna's employer offers reimbursement for expenses. Since the time that she joined the company, Lanna and her family have renovated their home, as well as purchased a new bicycle, television, electric fan, and refrigerator.

Tadjuddin: male with vocational education, married, with children

Tadjuddin works full-time for a company which produces plastic goods. He graduated from a senior vocational secondary school but did not attend college. Now in his thirties, Tadjuddin lives with his wife and one child remaining at home. Another child is away at school. He has worked at his present job for two-and-a-half years and takes home well over one million rupiahs every month in pay. Although his present company does not offer a pension or other retirement plan, Tadjuddin has established a savings account. He drives to work, spending several hours each day on the road. The family relies on the paycheck from his job to pay all the grocery bills and the mortgage. Tadjuddin worked for a rival plastics company for two years before joining his present employer. Since that time, he has raised his monthly take-home pay by two-thirds and bought a new refrigerator.

Summing up: these real-life stories, illustrative of many other respondents to the survey questionnaire, corroborate the impression that the surveyed firms have contributed to raising the well-being of a broad range of workers -- male and female, single and married, household heads, highly educated and with less education -- and their families.

List of Annexes

ANNEX I.

Chronology of Fiscal Sector Reforms, 1983-1995

TABLE A-I-1
CHRONOLOGY OF FINANCIAL SECTOR REFORMS, 1983 - 1995

June 1983	*Elimination of asset ceilings for all banks and controls on state bank interest rates for time deposits and loans; narrowing the range of priority and program loans eligible for Bank Indonesia subsidized refinancing ('liquidity credits').*
February 1984	*Reintroduction of Bank Indonesia Certificates (Sertifikat Bank Indonesia, SBIs) for undertaking open market operations; introduction of discount windows for banks at BI to assist their liquidity management.*
January 1985	*Introduction of system under which money market securities (Surat Berharga Pasar Uang, SBPU) - consisting of promissory notes issued or endorsed by banks and NBFI's, and bank endorsed trade bills - could also be used by BI to supply liquidity to the banking system. Rediscount facilities for banks also set up by BI to help with both day-to-day reserve management and maturity management.*
July 1987	*Introduction of managed auction system for issuing SBIs and purchasing SBPUs.*
December 1987	*Simplification of procedures for issuing and listing securities on the Jakarta Stock Exchange; removal of the prohibition on foreign investors purchasing shares in publicly listed companies; introduction of bearer securities; scope for new companies with no profit history to raise capital on the Parallel Stock Exchange; removal of the previously imposed 4 per cent limit on daily price fluctuations in the secondary market.*
October 1988	*Introduction of measures to foster competition, including:* *removal of most restrictions on entry for foreign and domestic banks, and on domestic bank branching; allowing public sector entities to place up to 50 per cent of their deposits outside state banks; allowing NBFIs to issue certificates of deposit; permitting banks and NBFIs to raise equity capital in the stock markets;* *easing entry to leasing, insurance, venture capital, consumer finance, factoring and securities activities; reducing bank reserve requirement from 15 percent to 2 per cent; improvements in other aspects of bank soundness requirements; imposition of tax on bank deposit interest to eliminate previous tax advantage of interest earning over income from securities; simplification of procedures for issuing securities; establishment of privately owned parallel stock market with less strict listing requirements; permission in principle for the establishment of other private stock exchanges.*
December 1988	*Allowed firms to undertake a "company listing" (all shares issued by the firm could be listed on the stock exchange rather than just those newly issued).*

March 1989	*Privately owned Surabaya Stock Exchange established.*
March 1989	*Issue of several decrees clarifying various aspects of the October 1988 package with regard to NBFIs, legal lending limits, joint venture capital ownership, bank mergers, the definition of bank capital, reserve requirements, bank investment in equities, and exchange rate risk exposure of banks.*
September 1989	*Foreign investors permitted to buy up to 49 per cent of issued securities of companies listed on stock exchanges.*
December 1989	*Operation of Jakarta Stock Exchange by BAPEPAM ended; BAPEPAM became a regulatory and supervisory agency. Right of PT Danareksa (the national investment trust) to buy up to half of all new issues revoked.*
January 1990	*Further narrowed the range of lending programs (in particular, those oriented to small borrowers) eligible for Bank Indonesia liquidity credits. All domestic banks required instead to direct 20 per cent of their loan portfolios to small firms and cooperatives. Foreign and joint venture banks required to extend at least 50 per cent of their loans to support export-oriented activities. Adjustment of legal lending limits requirements.*
December 1990	*New prudential rules, capital requirements and standards for capital market participants introduced.*
February 1991	*Various measures introduced to improve prudential standards in banking-among other areas, requiring banks to strengthen their capital base in accordance with Bank for International Settlements recommendations and to provision for loan losses.*
November 1991	*Imposition of ceilings on public sector-related offshore borrowing (including by the state banks). Improvements in the foreign exchange swap mechanism.*
April 1992	*Jakarta Stock Exchange privatized.*
April 1992	*Promulgation of new Banking, Insurance and Pension Fund Laws sponsored by the Department of Finance, and the Workers' Social Security Law, sponsored by the Department of Manpower.*
May 1993	*Modification of banking prudential standards to stimulate lending in the short run, and to set out phased deadlines for meeting the legal limits. B. Ruru, the chairman of BAPEPAM announced that the requirement price of new shares issues could not exceed thirteen times earnings.*
June 1993	*Deregulation in automotive sectors. Tariff reductions.*

October 1993	***Deregulation in 6 sectors, including export-import, tariff and import regulation, investment, license for investment, and pharmacy.***
January 1994	***MOF increased the maximum price to earnings ratio for new issues from 13 to 15.***
May 1994	***Deregulation in foreign investment: Foreign investors are allowed to hold 100 percent ownership of a business (PP No. 20/94). Foreign investors are also allowed to invest in broadcasting field.***
May 1995	***Jakarta Stock Exchange computerizes its operations.***
November 1995	***Parliament passes the Capital Markets Law.***

ANNEX II.

Estimation Procedures for Employment Generation and Capital-Labor Ratios

Annex II. Estimating Procedures for Employment Generation and Capital-Labor Ratios

This section describes the method used to estimate the employment generation, as well as the capital-labor ratios used for non-manufacturing industries for which no estimates were available from the BPS (the Indonesian statistical agency).

From the beginning of 1991 until the end of 1994, publicly-listed companies in Indonesia raised Rp. 17.9 trillion in funds on the stock market -- equivalent to about $8.5 billion. Applying capital-labor ratios to this amount of capital raised on the Jakarta Stock Exchange (JSX) -- the cumulative total of initial public offerings (IPOs), secondary public offerings (SPOs), and rights-issues on the JSX -- the "new" employment associated with the capital funds was estimated.

The capital raised was sorted by industry of company, with details more or less in line with "two-digit" industry-level classifications. As previously explained, industry-specific capital/labor ratios were used -- with estimates made of the ratios not available from official data sources -- and derived specific estimates of new employment for each industry.

In the final step of the estimation, when the number of new jobs attributable to stock market expansion are calculated, the operating assumption was that 42.5 percent of capital raised on the stock market is foreign-sourced.

1. *Procedures*

Table A-II-1 presents the amount of funds raised on the Jakarta Stock Exchange (JSX) from 1991 to 1994, sorted by industry. Interindustry totals vary greatly, with total annual activity heavily concentrated in 1994.

Table A-II-1 . IPOs, SPOs, and Rights-Issues on the Jakarta Stock Exchange, by Industry of Company, 1991-94 (billions of Indonesian Rupiah)

Code	Industry	1991	1992	1993	1994	Total
101	Cement	280	0	184	401	865
102	Ceramics, Glass, Plastics	14	61	158	252	485
103	Chemicals	132	0	184	0	316
104	Paper	0	0	70	241	311
105	Rubber	0	0	0	644	644
106	Metals & Cable	42	182	101	1,337	1,662
107	Automotive	702	0	691	0	1,394
108	Electronics	0	0	0	54	54
109	Photographic Equipment	31	73	0	0	104
110	Textile	158	228	92	146	624
111	Garments	0	0	132	86	218
112	Pharamaceuticals	78	21	68	122	289
113	Animal Feeds	37	0	293	130	461
114	Food & Beverages	11	63	51	747	872
115	Consumer Goods	0	0	32	144	177
116	Wholesale & Retail Trade	27	111	6	286	431
117	Wood	0	0	612	225	837
118	Manufacturing. & Trade, n.e.c.	0	0	199	270	468
201	Banking	20	28	836	1,144	2,028
202	Insurance	16	0	0	110	126
203	Financial Institutions	45	5	360	607	1,017
204	Securities	0	0	0	110	110
300	Hotel, Property, Real Estate, & Construction	227	384	337	2,112	3,059
400	Tours & Travel	0	6	34	0	40
500	Mining	0	0	0	111	111
600	Agribusiness	0	90	38	205	332
700	Plantations	0	0	0	0	0
800	Transportation Service	1	30	47	816	895
	Total	1,822	1,281	4,526	10,300	17,930

Source: Jakarta Stock Exchange

The next table presents the capital/labor ratios used in the calculations. There are three types of capital/labor ratios in this table:

- **Industries for which ratios are available from an official data source, the *Biro Pusat Statistik* (BPS). In some cases, the industrial classification of the publicly-listed company comprised two or more industries for which we have capital/labor ratios. In those cases, a simple mean of the ratios was used. Because the data from the BPS were for 1992 only, the wholesale price index for capital goods was used to adjust the ratios both backward and forward in years.**

- **Manufacturing industries for which specific ratios were not available from the BPS. For these industries, the average capital/labor ratio for all manufacturing industries was used. Again, the wholesale price index for capital goods was used to adjust this ratio for years before and after 1992. In the table, this second group of ratios appears in *boldface and italics*. See Annex II for details on how the estimates were generated.**

- **Non-manufacturing industries for which no capital/labor ratios were available from the BPS. For these ratios, the methodology adopted is described in the text box on this page. In the table, this third group of ratios appears in *italics and underlined*.**

Table A-II-2. Capital/Labor Ratios for Averaged-Sized Establishments, 1991-94
(thousands of Indonesian rupiah per worker)

Industry	1991	1992	1993	1994
Cement	*85,092*	*88,171*	*91,241*	*94,095*
Ceramics, Glass, Plastics, & Allied Products	*12,909*	*13,377*	*13,842*	*14,275*
Chemicals, Adhesive, & Allied Products	*47,007*	*48,708*	*50,404*	*51,981*
Paper & Allied Products	*54,558*	*56,532*	*58,501*	*60,330*
Rubber & Allied Products	*13,974*	*14,480*	*14,984*	*15,453*
Metal, Cable, & Allied Products	*33,761*	*34,983*	*36,201*	*37,333*
Automotive & Allied Products	*24,647*	*25,539*	*26,428*	*27,255*
Electronics & Allied Products	*19,683*	*20,395*	*21,105*	*21,765*
Photographic Equipment & Allied Products	*17,128*	*17,748*	*18,366*	*18,941*
Textile & Allied Products	*18,248*	*18,908*	*19,566*	*20,178*
Garment & Allied Products	*5,872*	*6,084*	*6,296*	*6,493*
Pharmaceutical Products	*17,128*	*17,748*	*18,366*	*18,941*
Animal Feeds	*17,128*	*17,748*	*18,366*	*18,941*
Food, Beverage, & Tobacco Products	*14,330*	*14,849*	*15,366*	*15,846*
Consumer Goods	*17,128*	*17,748*	*18,366*	*18,941*
Wholesale & Retail Trade	*37,271*	*39,679*	*41,061*	*42,345*
Wood Industry & Allied Products	*9,536*	*9,882*	*10,226*	*10,545*
Manufacturing & Trade, n.e.c.	*17,128*	*17,748*	*18,366*	*18,941*
Banking	*37,271*	*39,679*	*41,061*	*42,345*
Insurance	*37,271*	*39,679*	*41,061*	*42,345*
Financial Institution	*37,271*	*39,679*	*41,061*	*42,345*
Securities	*37,271*	*39,679*	*41,061*	*42,345*
Hotel, Property, Real Estate & Construction	*37,271*	*39,679*	*41,061*	*42,345*
Tours & Travel	*37,271*	*39,679*	*41,061*	*42,345*
Mining	*37,271*	*39,679*	*41,061*	*42,345*
Agribusiness & Related Products	*37,271*	*39,679*	*41,061*	*42,345*
Plantations	*37,271*	*39,679*	*41,061*	*42,345*
Transportation Service	*37,271*	*39,679*	*41,061*	*42,345*
addenda				
Wholesale Price Index for Capital Goods (1992 = 100)	*96.5*	*100.0*	*103.5*	*106.7*

n.e.c. **= not elsewhere classified.**

Source**: BPS, *Statistik Industri*, for 1992; ESDS estimates for all other years.**

Note**: The wholesale price index (WPI) for capital goods was used to adjust the manufacturing capital/labor ratios both backward and forward from 1992. The WPI is in the BPS, *Indikator Economi*, April 1995, page 34. The ratios for non-manufacturing industries were estimated by a methodology described on pages 75-77 .**

The next step in the estimation of employment generation is applying the capital/labor ratios to the measure of funds raised by industry. Table 3, in the text, shows the results of this multiplication, with summary totals. According to this method, the Rp. 17.9 trillion raised on the JSX during 1991-94 was associated with just under 0.7 million new jobs.

Estimating Capital-Labor Ratios for Industries Not Covered by Official Data

This set of capital-labor ratios *uses data for 1989 to 1994* -- all six years. (Note: in the study, only estimates for 1991 to 1994 were needed for the calculations.) Because the data used are so volatile, the simple average of the six years was used to arrive at a single estimate. This leaves the question: *what is to be used for each year*?

With no data available for non-manufacturing industries from the BPS, and with those industries accounting for nearly one-half the new funds raised on the JSX, a method was needed to estimate the average "capital/labor ratio." The method works on the theory that:

- **fixed capital formation (net of depreciation) in the economy is a measure of the "new" capital in a given year;**
- **gain in company-sector employment is a measure of "new" labor utilized in a given year; and,**
- **comparing these two measures generates an estimate of the "incremental" capital-labor ratio.**

Data are available for each component from the BPS national income for 1989-93 and the SAKERNAS Employment Survey for 1989-94. To cover the lack of national income data for 1994, trends were extrapolated. In the table on the next page, the numbers used are shown.

The data on net fixed capital formation are not adjusted for inflation. They are in nominal terms.

Table A-II-3. Calculations for Capital-Labor Ratios

			1989	1990	1991	1992	1993	1994	TOTAL
[1]	Gross Domestic Fixed Capital Formation	trillions	45.7	55.6	63.9	71.0	79.3	88.4	404.0
[2]	Depreciation	trillions	8.4	9.8	11.4	13.0	15.3	17.7	75.6
[3]	Net Fixed Capital Formation	trillions	37.3	45.8	52.5	58.0	64.1	70.7	328.4
[4]	Gain in "Company" Sector Employment	millions	1.6	1.1	1.3	0.4	1.4	2.8	8.5
[5]	"Capital/Labor Ratio" = [3]/[4]	millions	22.8	41.1	40.9	162.3	47.0	25.4	38.5

Due to the excessive volatility of the estimated "capital-labor ratio," it was decided to use the six-year average. That step arrives at an estimated Rp. 38,475 million per worker.

Because the source is nominal data, taking a simple six-year average also averages out the price changes. In other words, the "change" in the number from year-to-year, if the volatility is overlooked, is the sum of changes because the amount of capital per workers got larger in real terms, and because the cost of that capital went up in nominal terms.

The ratio, therefore, when used for 1989 estimates, is too high because it includes inflation that has not occurred yet. By the same token, the ratio, when used for 1994, is too low because it does not include all the inflation that has occurred.

In this line of reasoning, what is the best and most appropriate use of the estimate Rp. 38,475 million per worker? If that estimate is considered the average for the six-year period, then it should be equal to the mid-point of the estimates for 1991 and 1992.

There was 9.3 percent inflation for capital goods in 1991, and then 3.6 percent inflation during 1992. If it is assumed that the inflation in each year was constant throughout all twelve months, then half the inflation of each year is added up to produce the estimated capital-labor ratio for each year. By the method of deflation, it is assumed that the following equation holds:

The import of this assumption is that the method only shows price changes for each year.

$$Year\ 2 = (Year\ 1) \times (1 + inflation)$$

In the equation, "inflation" is defined as that which occurred from the middle of year 1 to the middle of year 2. In the case at hand, half the annual rate is used from each year. Putting the estimated inflation of 6.5 percent into the formula, and remembering that the two estimates *average to* Rp. 38,475 million per worker, generates estimates of capital-labor ratios of:

1991 Rp. 37,271 millions per worker
1992 Rp. 39,679 millions per worker

Using the WPI to deflate the 1991 estimate *backward* and the 1992 estimate *forward*, generates estimates for all six years, as shown in the table.

Table A-II-4.: Capital/Labor Ratios for Averaged-Sized Establishments, 1989-94 (thousands of Indonesian rupiah per worker)

1989	1990	1991	1992	1993	1994
33,681	35,047	37,271	39,679	41,061	42,345

ANNEX III.

Questionnaires Used in the Survey of Thirty-four Indonesian Companies, 1995

Annex IV.

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